

To: Sisk, Richard[Sisk.Richard@epa.gov]
From: Sisk, Richard
Sent: Tue 9/1/2015 6:27:36 PM
Subject: FW: Gold King Mine: 1978 Lake Emma Release Volume Discrepancy and EPA Fact Sheet Error
[Grand Junction Daily Sentinel_6-11-1978.pdf](#)
[CO Division of Mines Report_7-20-78.pdf](#)

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From: Naftz, Douglas
Sent: Thursday, August 27, 2015 11:44 AM
To: Madigan, Andrea
Cc: Sisk, Richard; Land, Kelcey; McCaffrey, Shawn; Rudy, Michael
Subject: Gold King Mine: 1978 Lake Emma Release Volume Discrepancy and EPA Fact Sheet Error

Andrea,

As we have discussed, during my review of the historical Gold King documents I have identified a significant discrepancy with regard to the 1978 release from Lake Emma through the American Tunnel. In short, EPA has reported in its “official” EPA Gold King Mine Watershed Fact Sheet

(link: <http://www2.epa.gov/sites/production/files/2015-08/documents/goldkingminewatershedfactsheetbackground.pdf>) that the 1978 release was 500 million gallons. However, a scientific study of the Upper Animas Watershed published by the USGS in 2007 as well as contemporaneous reports from 1978 estimate that the Lake Emma release was between 5 and 10 million gallons in volume. As we discussed, this should be addressed because the agency should strive to be as accurate as possible with the information it publishes associated with the Gold King site. Accordingly, I have documented this discrepancy in greater detail below.

The 500 million gallon number appears most prominently in an August 9, 2015 article from the High Country News covering the recent Gold King Mine release (see <https://www.hcn.org/articles/when-our-river-turned-orange-animas-river-spill>). The same 500 million gallon number is cited in an article published by the San Juan Independent (see <http://sjindependent.org/report/after-the-blowout-silverton-faces-watershed-moment-in-wake-of-gold-king-spill/1305>), however, the number is attributed to the EPA Fact Sheet (linked above). It is unclear whether the EPA fact sheet took the 500 million gallon number from the High Country News, or if the High Country News was using the number from the EPA Fact Sheet. In either case, the number appears to be inaccurate by approximately two orders of magnitude.

A comprehensive 2007 USGS paper on the Upper Animas watershed describes the 1978 Lake Emma release as follows (link to USGS Professional Paper Chapter C: http://pubs.usgs.gov/pp/1651/downloads/Vol1_combinedChapters/vol1_chapC.pdf):

About 6:00 p.m. on Sunday, June 4, 1978, Lake Emma broke through into the 2580 Stope on C level, flooding the mine on the only day of the week when no miners worked underground. The effect on the mine was cataclysmic, stripping timbers from the main shaft, crushing equipment, and filling tunnels with mud. At the Gladstone portal an estimated 5 to 10 million gallons of water blew out the walls of the portal building under the pressure of a 1,700-ft head from the lake and covered everything with black mud.

The 5 to 10 million gallon volume of the 1978 release from Lake Emma identified in the USGS paper is corroborated by a July 20, 1978 report by the State of Colorado Division of Mines (attached as "CO Division of Mines Report_7-20-78.pdf"), which stated that "[a]n estimated 6,000,000 gallons of water came through the mine." In addition, the same 5 to 10 million gallon estimate was also used in a newspaper article published by the Daily Sentinel newspaper in Grand Junction on June 11, 1978 (attached as "Grand Junction Daily Sentinel_6-11-1978.pdf").

In sum, both the 2007 USGS paper and contemporaneous reports by the State of Colorado and the Daily Sentinel newspaper suggest that the 1978 release from Lake Emma through the American Tunnel in the Sunnyside Mine was approximately 5 to 10 million gallons. Therefore, to maintain consistency with these reliable sources and to ensure accuracy, the EPA should amend or update its Fact Sheet to reflect that the 1978 release volume was between 5 and 10 million gallons, not 500 million gallons.

Let me know if you have any questions.

Regards,

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